

WHAT IS CLAIMED IS:

1. A power source circuit comprising:

a power source wiring at a high potential side provided with a first power source voltage and a second power source voltage;

a power source wiring at a low potential side;

a booster circuit as a charge pump installed between the power source wiring at a high potential side and the power source wiring at a low potential side and provided with a plurality of switching transistors and a plurality of capacitors; and

means for controlling the booster circuit,

wherein a predetermined number of power sources including the power source wiring at the high potential side are further provided with the power source circuit,

wherein an input voltage is selectively input to a part of the booster circuit from any one of the predetermined number of power sources, the means for controlling fixes all of the switching transistors inputting the predetermined number of power sources except one of the switching transistors; and

wherein the means for controlling controls the booster circuit to implement a boosting operation by switching the switching transistor not fixed with a predetermined frequency and a predetermined phase relationship so as to switch the input of the predetermined number of power sources and selectively output a predetermined number of output voltages from the booster circuit.

2. A power source circuit comprising:

a power source wiring at a high potential side provided with a first power source voltage and a second power source voltage;

a power source wiring at a low potential side;

a booster circuit as a charge pump installed between the power source wiring at a high potential side and the power source wiring at a low potential side and provided with a plurality of switching transistors and a plurality of

capacitors, where one of the first power source voltage and the second power source voltage is switched and inputted to a part of the booster circuit and a first output voltage or a second output voltage, which are boosted based on the first power source voltage or the second power source voltage respectively, is outputted, and

means for controlling that controls fixing some of the plurality of switching transistors, which inputs the first power source voltage or the second power source voltage, among the switching transistors of the booster circuit to be at an "off" state, and switching the other transistors with a predetermined frequency so as to make the booster circuit implement a boosting operation and the booster circuit outputs the first output voltage or the second output voltage by switching and inputting one of the first power source voltage and a second power source voltage to a part of the booster circuit.

3. The power source circuit according to claim 1 further comprising a multi stage booster circuit having multiple boosting stages, wherein a number of the multiple stages are decreased by short circuiting an output terminal of the multi stage booster circuit with an output terminal of a capacitor at least constituting a final stage of the multistage booster circuit and removing the capacitor.

4. The power source circuit according to claim 1 further comprising a multi stage booster circuit having multiple boosting stages, wherein an output terminal of a capacitor in at least one stage except the final stage of the multi stages booster circuit is connected to an output capacitor via one of the plurality of switching transistors so as to fetch out the potential of the stage as a stabilized potential from the output capacitor.

5. A power source circuit comprising:
a power source wiring at a high potential side provided with a first

power source voltage and a second power source voltage;

a power source wiring at a low potential side;

a multi stage booster circuit as a charge pump installed between the power source wiring at a high potential side and the power source wiring at a low potential side and provided with a plurality of switching transistors and a plurality of capacitors to generate an output voltage, which are multistage boosted based on the first power source voltage or the second power source voltage at the high potential side; and

means for controlling that controls the booster circuit to implement a boosting operation by switching the plurality of the switching transistors in the booster circuit with a predetermined frequency and a predetermined phase relationship,

wherein a number of multiple stages of the multi stage booster circuit decreases by short circuiting an output terminal of the multi stage booster circuit with a output terminal of a capacitor at least constituting a final stage of the multi stage booster circuit and removing the capacitor.

6. A power source circuit comprising:

a power source wiring at a high potential side provided with a first power source voltage and a second power source voltage;

a power source wiring at a low potential side;

a multi stage booster circuit as a charge pump installed between the power source wiring at a high potential side and the power source wiring at a low potential side and provided with a plurality of switching transistors and a plurality of capacitors to generate a output voltage, which are multistage boosted based on the first power source voltage or second power source voltage at the high potential side; and

means for controlling the multi booster circuit to boost a voltage by switching the plurality of switching transistors in the multi stage booster circuit with a predetermined frequency and a predetermined phase relationship,

wherein an output terminal of a capacitor in at least one stage of the multi stage booster circuit except a final stage of the multi stage booster circuit

is connected to an output capacitor so as to fetch out a potential of the at least one stage as a stabilized potential from the output capacitor.

7. A power source circuit comprising:

a power source wiring at a high potential side provided with a first power source voltage and a second power source voltage;

a power source wiring at a low potential side;

a booster circuit as a charge pump installed between the power source wiring at a high potential side and the power source wiring at a low potential side and provided with a plurality of switching transistors and a plurality of capacitors; and

means for controlling that controls the booster circuit to implement a boosting operation by switching the plurality of the switching transistors with a predetermined frequency and a predetermined phase relationship, outputting a first output voltage and fixing some of the plurality of switching transistors to be at an "on" state and the rest of the plurality of switching transistors to be at an "off" state so as to make the booster circuit output a second output voltage which is equivalent to the power source voltage at the high potential side .

8. The power source circuit according to claim 2 further comprising a multi stage booster circuit having multiple boosting stages, wherein a number of the multiple stages are decreased by short circuiting an output terminal of the multi stage booster circuit with an output terminal of a capacitor at least constituting a final stage of the multistage booster circuit and removing the capacitor.

9. The power source circuit according to claim 2 further comprising a multi stage booster circuit having multiple boosting stages, wherein an output terminal of a capacitor in at least one stage except the final stage of the multi stages booster circuit is connected to an output capacitor via one of the plurality

of switching transistors so as to fetch out the potential of the stage as a stabilized potential from the output capacitor.

10. The power source circuit according to claim 1, wherein the plurality of switching transistors includes a first N-channel transistor and a first P-channel transistor connected in series between the first power source voltage at the high potential side and the power source wiring.

11. The power source circuit according to claim 10, wherein the plurality of switching transistors includes a second N-channel transistor and a second P-channel transistor connected in series in parallel with the series connection of the first P-channel transistor and the first N-channel transistor.

12. The power source circuit according to claim 11, wherein the first P-channel transistor is an input for the first power source voltage.

13. The power source circuit according to claim 11, wherein the first power source voltage is supplied to the second P-channel transistor.

14. The power source circuit according the claim 11, wherein the plurality of switching transistors includes a third P-channel transistor connected in parallel with the first P-channel transistor.

15. The power source circuit according to claim 14, wherein the third P-channel transistor is an input for the second power source voltage.

16. The power source circuit according to claim 2, wherein the plurality of switching transistors includes a first N-channel transistor and a first P-channel transistor connected in series between the first power source voltage at the high potential side and the power source wiring.

17. The power source circuit according to claim 16, wherein the plurality of switching transistors includes a second N-channel transistor and a second P-channel transistor connected in series.

18. The power source circuit according to claim 17, wherein the first P-channel transistor is connected to the second P-channel transistor in parallel.

19. The power source circuit according to claim 16, wherein the first P-channel transistor receives the first power source voltage.

20. The power source circuit according to claim 16, wherein the plurality of switching transistors include a third P-channel transistor that receives the second power source voltage.